

Form PTO-1449

## INFORMATION DISCLOSURE

CITATION  
IN AN APPLICATION

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Docket Number (Optional)  
CIBT-P01-080Application Number  
09/724,964Applicant  
Tessa CromptonFiling Date  
November 28, 2000Group Art Unit  
1632 1646

## U.S. PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
W	AA	5,328,470	Nabel et al.			
	AB	5,286,654	Cox et al.			
	AC	5,266,488	Ordahl et al.			
	AD	5,264,564	Matteucci			
	AE	5,256,775	Froehler			
	AF	5,223,409	Ladner et al.			
	AG	5,223,408	Goeddel et al.			
	AH	5,198,346	Ladner et al.			
	AI	5,176,996	Hogan et al.			
	AJ	5,096,815	Ladner et al.			
	AK	4,980,286	Morgan et al.			
	AL	4,868,116	Morgan et al.			

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER		DATE	COUNTRY	CLASS	SUBCLA SS	Translation	
							YES	NO
W	AM	WO 96/29411 ✓	9/26/96	PCT				
	AN	WO 96/17924 ✓	6/13/96	PCT				
	A0	WO 95/31560 ✓	11/23/95	PCT				
	AP	WO 95/18856 ✓	7/13/95	PCT				
	AQ	WO 93/25234 ✓	12/23/93	PCT				
	AR	WO 93/09222 ✓	5/13/93	PCT				
	AS	WO 92/15679 ✓	9/17/92	PCT				
	AT	WO 92/09690 ✓	6/11/92	PCT				
	AU	WO 92/07573 ✓	5/14/92	PCT				
	AV	WO 90/02809 ✓	3/22/90	PCT				
	AW	WO 89/07136 ✓	8/10/89	PCT				
	AX	WO 89/05345 ✓	6/15/89	PCT				

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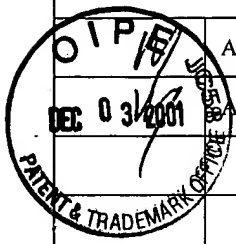
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AY	WO 89/02468	3/23/89						
AZ	WO 88/06630	9/7/88	PCT					

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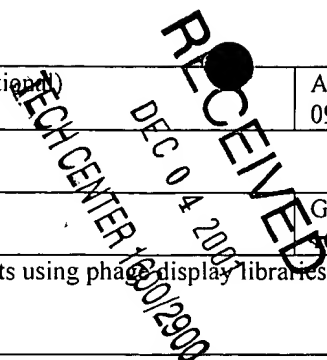
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BA	Arkin and Yourvan, 1992, "An algorithm for protein engineering: simulations of recursive ensemble mutagenesis", Proc. Natl. Acad. Sci. USA 89:7811-7815.
BB	Armentano et al., 1990, "Expression of human factor IX in rabbit hepatocytes by retrovirus-mediated gene transfer: potential for gene therapy of hemophilia B", Proc. Natl. Acad. Sci. USA 87:6141-6145.
BC	Baldwin et al., 1984, "Cloning of the luciferase structural genes from Vibrio harveyi and expression of bioluminescence in Escherichia coli", Biochemistry 23:3663-3667
BD	Barbas et al., 1992, "Semisynthetic combinatorial antibody libraries: a chemical solution to the diversity problem", Proc. Natl. Acad. Sci. USA 89:4457-4461
BE	Bass et al., 1990, "Hormone phage: an enrichment method for variant proteins with altered binding properties", Proteins 8:309-314
BF	Bear et al., 1992, "Purification and functional reconstitution of the cystic fibrosis transmembrane conductance regulator (CFTR)", Cell 68:809-818
BG	Ben-Bassat et al., 1987, "Processing of the initiation methionine from proteins; properties of the Escherichia coli methionine aminopeptidase and its gene structure", J. Bacteriol. 169:751-757
BH	Benoist et al., 1981, "In vivo sequence requirements of the SV40 early promotor region", Nature 290:304-310
BI	Berkner et al., 1988, "Development of adenovirus vectors for the expression of heterologous genes", Biotechniques 6:616-629
BJ	Borle, 1990, "An overview of techniques for the measurement of calcium distribution, calcium fluxes, and cytosolic free calcium in mammalian cells", Environ. Health Perspect. 84:45-56
BK	Bumcrot et al., 1995, "Proteolytic processing yields two secreted forms of sonic hedgehog", Mol. Cell. Biol. 15:2294-2303
BL	Chang et al., 1994, "Products, genetic linkage and limb patterning activity of a murine hedgehog gene", Development 120:3339-3353
BM	Chen et al., "Gene therapy for brain tumors: regression of experimental gliomas by adenovirus-mediated gene transfer in vivo", Proc. Natl. Acad. Sci. USA 91:3054-3057
BN	Chowdhury et al. 1991, "Long-term improvement of hypercholesterolemia after ex vivo gene therapy in LDLR-deficient rabbits", Science 254:1802-1805

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		Clackson et al., 1991, "Making antibody fragments using phage display libraries", Nature 352:624-628
		Cullen and Malim, 1992, "Secreted placental alkaline phosphatase as a eukaryotic reporter gene", Methods Enzymol. 216:362-368
	BQ	Cwirla et al., 1990, "Peptides on phage: a vast library of peptides for identifying ligands", Proc. Natl. Acad. Sci. USA 87:6378-6382.
	BR	Dai et al., 1992, "Gene therapy via primary myoblasts: long-term expression of factor IX protein following transplantation in vivo", Proc. Natl. Acad. Sci. USA 89:10892-10895
	BS	Dann et al., 1986, "Human renin: a new class of inhibitors", Biochem. Biophys. Res. Commun. 134:71-77
	BT	Danos and Mulligan, 1988, "Safe and efficient generation of recombinant retroviruses with amphotropic and ecotropic host ranges", Proc. Natl. Acad. Sci. USA 85:6460-6464
	BU	Delagrave et al., 1993, "Recursive ensemble mutagenesis", Protein Eng. 6:327-331
	BV	Dev et al., 1994, "Electrochemotherapy--a novel method of cancer treatment", Cancer Treat. Rev. 20:105-115
	BW	Devlin et al., 1990, "Random peptide libraries: a source of specific protein binding molecules", Science 249:404-406
	BX	DeWet et al., 1987, "Firefly luciferase gene: structure and expression in mammalian cells", Mol. Cell Biol. 7:725-737
	BY	Eglitis et al., 1985, "Gene expression in mice after high efficiency retroviral-mediated gene transfer", Science 230:1395-1398
	BZ	Ekker et al., 1995, "Patterning activities of vertebrate hedgehog proteins in the developing eye and brain", Curr. Biol. 5:944-955
	CA	Ellison et al., 1991, "Epitope-tagged ubiquitin. A new probe for analyzing ubiquitin function", J. Biol. Chem. 266:21150-21157
	CB	Ellman et al., 1958, "A colorimetric method for determining low concentrations of mercaptans", Arch. Biochem. Biophys. 74:443
	CC	Engbrecht and Silverman, 1984, "Identification of genes and gene products necessary for bacterial bioluminescence", Proc. Natl. Acad. Sci. USA 81:4154-4158
✓	CD	Ettienne-Julan et al., 1992, "The efficiency of cell targeting by recombinant retroviruses depends on the nature of the receptor and the composition of the artificial cell-virus linker", J. Gen. Virol. 73 ( Pt 12):3251-3255

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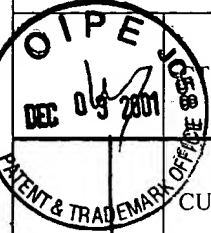
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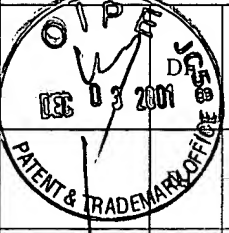
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		Ewenson et al., 1986, "Ketomethylene pseudopeptide analogues of substance P: synthesis and biological activity", J. Med. Chem. 29:295-299
	CF	Ferry et al., 1991, "Retroviral-mediated gene transfer into hepatocytes in vivo", Proc. Natl. Acad. Sci. USA 88:8377-8381
	CG	Fuchs et al., 1991, "Targeting recombinant antibodies to the surface of <i>Escherichia coli</i> : fusion to a petidoglycan associated lipoprotein", Bio/Technology 9:1370-1371
	CH	Gallop et al., 1994, "Applications of combinatorial technologies to drug discovery. 1. Background and peptide combinatorial libraries", J. Med. Chem. 37:1233-1251
	CI	Gordon et al., 1985, "Design of peptide derived amino alcohols as transition-state analog inhibitors of angiotensin converting enzyme", Biochem. Biophys. Res. Commun. 126:419-426
	CJ	Goud et al., 1983, "Antibody-mediated binding of a murine ecotropic Moloney retroviral vector to human cells allows internalization but not the establishment of the proviral state", Virology 163:251-254
	CK	Goward et al, 1992, "Molecular evolution of bacterial cell-surface proteins", Trends Biochem. Sci. 18:136-140 Review.
	CL	Graham et al., 1991, "Manipulation of adenovirus vectors" <u>Methods in Molecular Biology</u> (Humana, Clifton, NJ) Vol. 7 pp. 109-127
	CM	Griffiths et al., 1993, "Human anti-self antibodies with high specificity from phage display libraries", EMBO J. 12:725-734
	CN	Gunning et al., 1997, "A human beta-actin expression vector system directs high-level accumulation of antisense transcripts", Proc. Natl. Acad. Sci. USA 84:4831-4835
	CO	Gustin et al., 1993, "Characterization of the role of individual protein binding motifs within the hepatitis B virus enhancer I on X promoter activity using linker scanning mutagenesis", Virology 193:653-660
	CP	Habig et al., 1974, "Glutathione S-transferases. The first enzymatic step in mercapturic acid formation", J. Biol. Chem. 249:7130-7139
	CQ	Hahn et al., 1996, "Mutations of the human homolog of <i>Drosophila</i> patched in the nevoid basal cell carcinoma syndrome", Cell 85:841-851
	CR	Haj-Ahmad et al., 1986, "Development of a helper-independent human adenovirus vector and its use in the transfer of the herpes simplex virus thymidine kinase gene", J. Virol. 57:267-274
	CS	Hall et al., 1983, "Expression and regulation of <i>Escherichia coli</i> lacZ gene fusions in mammalian cells", J. Mol. Appl. Genet. 2:101-109

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		Filing Date November 28, 2000	Group Art Unit <del>1632</del> 1646
		Hammerschmidt et al., 1996, "Protein kinase A is a common negative regulator of Hedgehog signaling in the vertebrate embryo", Genes Dev. 10:647-658	
	CU	Hidalgo and Ingham, 1990, "Cell patterning in the Drosophila segment: spatial regulation of the segment polarity gene patched", Development 110:291-301	
	CV	Hochuli et al., 1987, "New metal chelate adsorbent selective for proteins and peptides containing neighbouring histidine residues", J. Chromatogr. 411:177-184	
	CW	Huber et al., 1991, "Retroviral-mediated gene therapy for the treatment of hepatocellular carcinoma: an innovative approach for cancer therapy", Proc. Natl. Acad. Sci. USA 88:8039-8043	
	CX	Hui et al., 1994, "Expression of three mouse homologs of the Drosophila segment polarity gene cubitus interruptus, Gli, Gli-2, and Gli-3, in ectoderm- and mesoderm-derived tissues suggests multiple roles during postimplantation development", Dev. Biol. 162:402-413	
	CY	Huston et al., 1988, "Protein engineering of antibody binding sites: recovery of specific activity in an anti-digoxin single-chain Fv analogue produced in Escherichia coli", Proc. Natl. Acad. Sci. USA 85:5879-5883	
	CZ	Hwu et al., 1993, "Functional and molecular characterization of tumor-infiltrating lymphocytes transduced with tumor necrosis factor-alpha cDNA for the gene therapy of cancer in humans", J. Immunol. 150:4104-4115	
	DA	Hynes, 1987, "Integrins: a family of cell surface receptors", Cell 48:549-554	
	DB	Hynes, 1992, "Integrins: versatility, modulation, and signaling in cell adhesion", Cell 69:11-25	
	DC	Ike et al., 1983, "Solid phase synthesis of polynucleotides. VIII. Synthesis of mixed oligodeoxyribonucleotides by the phosphotriester solid phase method", Nucleic Acids Res. 11:477-488	
	DD	Itakura et al., 1981, Recombinant DNA, Proc. 3 <sup>rd</sup> Cleveland Symposium On Macromolecules, A.G. Walton, ed. (Elsevier, Amsterdam) pp. 273-289	
	DE	Itakura et al., 1984, "Expression in Escherichia coli of a chemically synthesized gene for the hormone somatostatin", Science 198:1056-1063	
	DF	Itakura et al., 1984, "Synthesis and use of synthetic oligonucleotides", Annu. Rev. Biochem. 53:323-356	
	DG	Johnson et al., 1996, "Human homolog of patched, a candidate gene for the basal cell nevus syndrome", Science 272:1668-1671	
	DH	Jones et al., 1979, "Isolation of adenovirus type 5 host range deletion mutants defective for transformation of rat embryo cells", Cell 17:683-689	

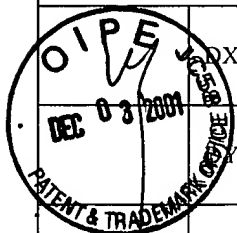
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		Karasuyama et al., 1989, "Autocrine growth and tumorigenicity of interleukin 2-dependent helper T cells transfected with IL-2 gene", J. Exp. Med. 169:18-27	
		Kay et al., 1992, "Hepatic gene therapy: persistent expression of human alpha 1-antitrypsin in mice after direct gene delivery in vivo", Hum. Gene Ther. 3:641-647	
	DK	Kinzler et al., 1990, "The GLI gene encodes a nuclear protein which binds specific sequences in the human genome", Mol. Cell. Biol. 10:634-642	
	DL	Klessig et al., 1984, "Introduction, stable integration, and controlled expression of a chimeric adenovirus gene whose product is toxic to the recipient human cell", Mol. Cell. Biol. 4:1354-1362	
	DM	Kornblihtt et al., 1985, "Primary structure of human fibronectin: differential splicing may generate at least 10 polypeptides from a single gene", EMBO J. 4:1755-1759	
	DN	Kube et al., 1995, "Isolation of the human interleukin 10 promoter. Characterization of the promoter activity in Burkitt's lymphoma cell lines", Cytokine 7:1-7	
	DO	Lai et al., 1995, "Patterning of the neural ectoderm of Xenopus laevis by the amino-terminal product of hedgehog autoproteolytic cleavage", Development 121:2349-2360	
	DP	Lee et al., 1992, "Secretion and localized transcription suggest a role in positional signaling for products of the segmentation gene hedgehog", Cell 71:33-50	
	DQ	Lee et al., 1994, "Autoproteolysis in hedgehog protein biogenesis", Science 266:1528-1537	
	DR	Lyons and Nelson, 1984, "An immunological method for detecting gene expression in yeast colonies", Proc. Natl. Acad. Sci. USA 81:7426-7430	
	DS	Marigo and Tabin, 1996, "Regulation of patched by sonic hedgehog in the developing neural tube", Proc. Natl. Acad. Sci. USA 93:9346-9351	
	DT	Marigo et al., 1996, "Conservation in hedgehog signaling: induction of a chicken patched homolog by Sonic hedgehog in the developing limb", Development 122:1225-1233	
	DU	Marks et al., 1992, "Molecular evolution of proteins on filamentous phage. Mimicking the strategy of the immune system", J. Biol. Chem. 267:16007-16010	
	DV	Marti et al., 1995, "Distribution of Sonic hedgehog peptides in the developing chick and mouse embryo", Development 121:2537-2547	
	DW	Miller et al., 1987, "N-terminal methionine-specific peptidase in Salmonella typhimurium", Proc. Natl. Acad. Sci. USA 84:2718-2722	

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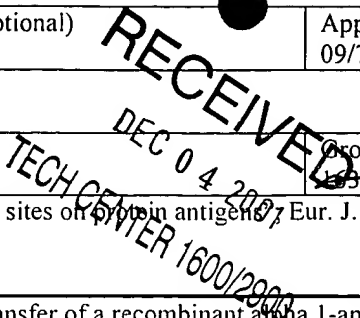
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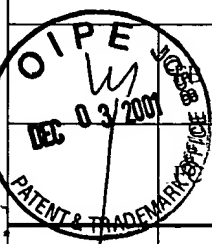
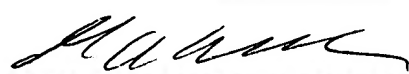
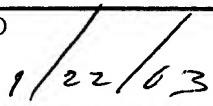
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	Narang, 1983, "DNA synthesis", Tetrahedron 39:3-22
DZ	Neda et al., 1991, "Chemical modification of an ecotropic murine leukemia virus results in redirection of its target cell specificity", J. Biol. Chem. 266:14143-14146
EA	Newton et al., 1983, "Transfer of band 3, the erythrocyte anion transporter, between phospholipid vesicles and cells", Biochemistry 22:6110-6117
EB	Orenic et al., 1996, "Cloning and characterization of the segment polarity gene cubitus interruptus Dominant of Drosophila", Genes Dev. 4:1053-1067
EC	Partis et al., 1983, "Cross-linking of protein by $\omega$ -maleimido alkanoyl n-hydroxysuccinimido esters", J. Pro. Chem. 2:263
ED	Pepinsky et al., 1998, "Identification of a palmitic acid-modified form of human Sonic hedgehog", J. Biol. Chem. 273:14037-14045
EE	Pierschbacher et al., 1984, "Cell attachment activity of fibronectin can be duplicated by small synthetic fragments of the molecule", Nature 309:30-33
EF	Pierschbacher et al., 1987, "Influence of stereochemistry of the sequence Arg-Gly-Asp-Xaa on binding specificity in cell adhesion", J. Biol. Chem. 262:17294-17298
EG	Porter et al., 1995, "The product of hedgehog autoproteolytic cleavage active in local and long-range signalling", Nature 374:363-366
EH	Porter et al., 1996, "Hedgehog patterning activity: role of a lipophilic modification mediated by the carboxy-terminal autoprocessing domain", Cell 86:21-34
EI	Preat et al., 1990, "A putative serine/threonine protein kinase encoded by the segment-polarity fused gene of Drosophila", Nature 347:87-89
EJ	Reber et al., 1987, "Hydrophobic properties of the beta 1 and beta 2 subunits of the rat brain sodium channel", J. Biol. Chem. 262:11369-11374
EK	Riddles et al., 1979, "Ellman's reagent: 5,5'-dithiobis(2-nitrobenzoic acid)--a reexamination", Anal. Biochem. 94:75-81
EL	Roberts et al., 1992, "Directed evolution of a protein: selection of potent neutrophil elastase inhibitors displayed on M13 fusion phage", Proc. Natl. Acad. Sci. USA 89:2429-2433
EM	Roelink et al., 1995, "Floor plate and motor neuron induction by different concentrations of the amino-terminal cleavage product of sonic hedgehog autoproteolysis", Cell 81:445-455

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		Roman et al., 1994, "Mapping of Hsp70-binding sites on protein antigens", Eur. J. Biochem. 222:65-73	
		Rosenfeld et al., 1991, "Adenovirus-mediated transfer of a recombinant alpha 1-antitrypsin gene to the lung epithelium in vivo", Science 252:431-434	
	EP	Rosenfeld et al., 1992, "In vivo transfer of the human cystic fibrosis transmembrane conductance regulator gene to the airway epithelium", Cell 68:143-155	
	EQ	Roux et al., 1989, "A versatile and potentially general approach to the targeting of specific cell types by retroviruses: application to the infection of human cells by means of major histocompatibility complex class I and class II antigens by mouse ecotropic murine leukemia virus-derived viruses", Proc. Natl. Acad. Sci. USA ;86:9079-9083	
	ER	Ruoslahti et al., 1987, "New perspectives in cell adhesion: RGD and integrins", Science 238:491-497	
	ES	Sato et al., 1986, "Synthesis and antibiotic activity of a gramicidin s analogue containing bicyclic beta-turn dipeptides", J. Chem. Soc. Perkin Trans. 1:1231	
	ET	Sato et al., 1995, "Structure and regulation of the gene encoding the neuron-specific protein kinase C substrate neurogranin (RC3 protein)", J. Biol. Chem. 270:10314-10322	
	EU	Scott et al., 1990, "Searching for peptide ligands with an epitope library", Science 249:386-390	
	EV	Sprague et al., 1983, "Expression of a recombinant DNA gene coding for the vesicular stomatitis virus nucleocapsid protein", J. Virol. 45:773-781	
	EW	Stein et al., 1988, "Oligodeoxynucleotides as inhibitors of gene expression: a review", Cancer Res. 48:2659-2668 Review.	
	EX	Tabata et al., 1992, "The Drosophila hedgehog gene is expressed specifically in posterior compartment cells and is a target of engrailed regulation", Genes Dev. 6:2635-2645	
	EY	Templeton et al., 1984, "N-terminal amino acid sequences of the polyoma middle-size T antigen are important for protein kinase activity and cell transformation", Mol. Cell. Biol. 4:817-821	
	EZ	Therond et al., 1993, "Molecular organisation and expression pattern of the segment polarity gene fused of Drosophila melanogaster", Mech. Dev. 44:65-80	
	FA	Toh et al., 1989, "Isolation and characterization of a rat liver alkaline phosphatase gene. A single gene with two promoters", Eur. J. Biochem. 182:231-237	



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		Van Beusechem et al., 1992, "Long-term expression of human adenosine deaminase in rhesus monkeys transplanted with retrovirus-infected bone-marrow", Proc. Natl. Acad. Sci. USA 89:7640-7644	
		Van der Krol et al., 1988, "Modulation of eukaryotic gene expression by complementary RNA or DNA sequences", Biotechniques 6:958-976	
	FD	Wen et al., 1995, "The expression and intracellular distribution of the heat-stable protein kinase inhibitor is cell cycle regulated", J. Biol. Chem. 270:2041-2046.	
	FE	Wilson et al., 1988, "Retrovirus-mediated transduction of adult hepatocytes", Proc. Natl. Acad. Sci. USA 85:3014-3018	
	FF	Wolfe et al., 1992, "Herpesvirus vector gene transfer and expression of beta-glucuronidase in the central nervous system of MPS VII mice", Nat. Genet. 1:379-384	
	FG	Yamada et al., 1985, "Overproduction of the protein product of a nonselected foreign gene carried by an adenovirus vector", Proc. Natl. Acad. Sci. USA 82:3567-3571	
	FH	Yamamoto et al., 1980, "Identification of a functional promoter in the long terminal repeat of Rous sarcoma virus", Cell 22:787-797	
	FI	Youvan et al., 1992, <u>Parallel Problem Solving from Nature</u> (Elsevir Publishing Co., Amsterdam) pp. 401-410	
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